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THE LIVES OF GEESE

Brant, Emperor, White-Fronted, and Cackling Canada Geese

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GEESE

Brant, Emperor, White-Fronted, and Cackling Canada Geese

The United States Department of the Interior
Fish and Wildlife Service
Anchorage, Alaska 1988

In the past there was plenty of wildlife for everyone to use and enjoy. When animals, like geese, migrate to different parts of the world, people all along the way use them for food. Now there are many more people around the world who use wild resources. With so many people depending on these animals, everyone must be very careful to use them wisely. Knowing about the lives of animals helps in making wise decisions about how to use them.

Biologists, hunters, and other people are working together to help the geese.

This book is about four of Alaska's geese that need special attention: Brant, emperor, white-fronted, and cackling Canada geese. Biologists, conservationists, and hunters from Alaska and the lower 48 are working together to protect geese and

other waterfowl. They are doing this by not taking as many birds and eggs, or not hunting them at all. They are also protecting important habitats. These birds are no longer plentiful. Hopefully, this book will help everyone to make wise choices about them.

There are 145 species of ducks, geese, and swans in the world.

Geese are large birds with males and females that look and sound alike. These birds mate for life. If one of a pair dies, the other will not take another mate until the next mating season. If a goose is shot during nesting season, the other may not raise young that year.

On March 16, 1934, Congress passed the Migratory Bird Hunting Stamp Act. This requires waterfowl hunters 16 years and older to buy a Migratory Bird Hunting and Conservation Stamp. Money from the stamps is used to buy and lease waterfowl habitat. Over 2.3 million acres of habitat has been preserved through this program.

Male geese help to guard the nest and care for the young. Geese do not hide their nests as well as ducks. They chase off enemies by running at them with their heads down and their necks stretched out. Some small geese have trouble defending their nests from foxes and other large animals.

Most geese abandon their nests as soon as all the eggs have hatched. Young families may return to the nest for the first few nights.

Geese nest and raise their young only during the summer while they are in Alaska. In the fall they start to move south where they will eat and rest. Geese mate when they are 2 to 3 years old. Some species pair up during the winter, others wait until spring.

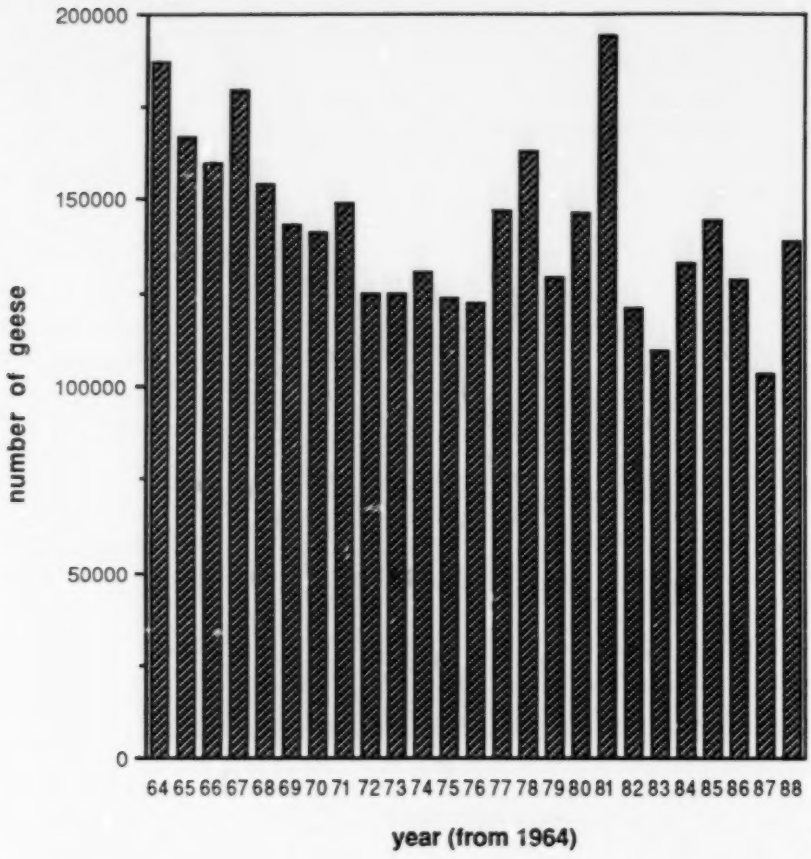
Goose chasing predator away.

PACIFIC BLACK BRANT
(Branta bernicla nigricans)

Brant are small geese that weigh about three pounds. They are dark with a white collar high on the neck, brown bellies, and gray and white bars on their sides. Brant are fast fliers. The scientific name "bernicla" means dark bellied, and "nigricans" means black. Both of these terms describe the brant's color.

Fox, glaucous gull, mink, and parasitic jaeger are predators on brant and their eggs.

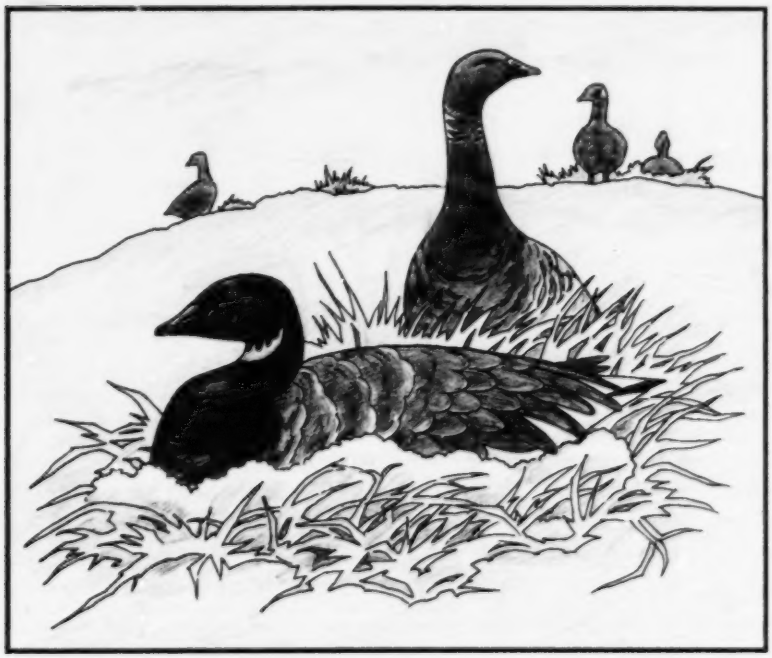
Population Levels of Pacific Flyway
BLACK BRANT



Data based on peak numbers in midwinter waterfowl surveys in the Pacific Flyway. Includes Washington, Oregon, California, and Mexico.

Recently, there has been a large decline in the number of brant nesting on the Yukon-Kuskokwim Delta. In 1981 there were 68,000 brant nesting on the Delta. By 1984 there were only 16,000.

When they are three years old, Brant begin to nest. They gather in large groups or "colonies" rather than scattered single nests. Brant return to the same colonies year after year. Today, there are three major colony sites on the Yukon-Kuskokwim Delta. Other colonies are found on the Seward Peninsula and the North Slope of Alaska, and in the Soviet Union and northern Canada.



Nesting brant.

When birds nest in colonies, the nests on the colony's edges have a greater chance of being attacked by predators. Nests in the center of the colony are less likely to be attacked. This arrangement protects more of the population from predators than would single nests.

About the first of June, brant begin to build nests on small islands or beside ponds near the coast. They lay about 5 white eggs which take around 25 days to hatch. Young birds begin to fly when they are about one and one-half months old.

In the fall, the brant leave their nesting areas and fly to Izembek Lagoon on the Alaska Peninsula. Birds from Siberia, Canada, and different parts of Alaska all gather there to rest and eat the eelgrass that grows in the shallow waters of the lagoon.

During their stay at Izembek, each brant eats heavily and gains about 1 pound in weight, mostly fat. This gives them the extra energy to make their long migration flight.

Izembek Lagoon supports one of the largest eelgrass beds in the world, 84,000 acres. The eelgrass attracts brant, Taverner's Canada geese, emperor geese, and many other species.

PACIFIC BRANT
BREEDING AND
WINTERING AREA
Staging Area
Breeding Area
Migration Routes
Wintering Area

One evening around the first of November, the brant will begin their migration from the lagoon. Within a couple of days, the only brant left at Izembek Lagoon are a few thousand that spend the winter there.

The brant fly non-stop across the Pacific Ocean to settle on the west coast of Mexico. A few groups may stop in British Columbia, Washington, Oregon, or California. The birds do not nest in these wintering areas, but spend their time resting and eating.

Brant feeding on eelgrass beds.

In February, brant start north again. They move slowly up the Pacific Coast, stopping in bays in California, Oregon, Washington, and British Columbia. In late April and early May, most of the brant fly directly back to Izembek Lagoon. (A few stop off in Kodiak.) Once again, the birds spend their time at Izembek resting and eating eelgrass. After a few weeks, the brant fly on to their nesting areas.

Emperor Geese
(Chen canagica)

Emperors are medium sized geese which weigh about 6 pounds. They are a blue-gray color with round heads and short thick necks. Their heads and the back of their necks are white while their chin and throat are dark. It looks as if the birds are wearing caps.

Russian fur hunters may have named these geese emperors after the tsar, the emperor of Russia, who wore a royal cap. Canagica is for Kanaga Island where some of the birds spend the winter.

Foxes, glaucous gulls, and parasitic jaegers are all predators of the emperor goose and its eggs.

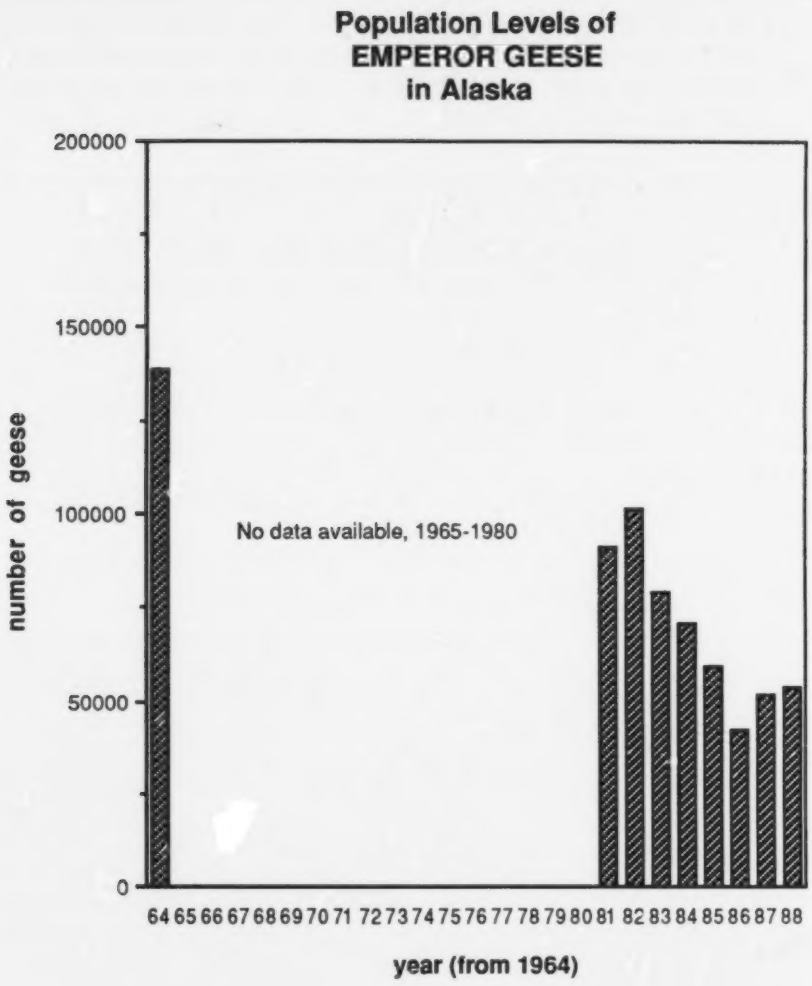
The white feathers on the head of emperor geese may be stained orange when they feed in water with a high iron content.

Almost all of the emperor geese in the world nest on the Yukon-Kuskokwim Delta. A few nest along Kotzebue Sound, on St. Lawrence Island, and along the Siberian coast.

In 1964 there were 139,000 emperor geese. In 1986, there were only 42,000 geese. Conservation work in recent years may be helping. In 1987 there were about 51,000 birds.

The beaks of birds are different shapes depending on their favorite foods. Ducks and geese have broad, flattened bills with ridges along the edges. This design helps them strain food from the water and lets them clip grass and other soft plants.

Emperors arrive on the Delta in the last half of May and wait for snow to melt and water levels to go down before they nest. Emperors don't mate and raise young until they are three years old. They nest in wetlands within 5 to 15 miles of the



Data based on spring counts from Alaska Peninsula and Bristol Bay.

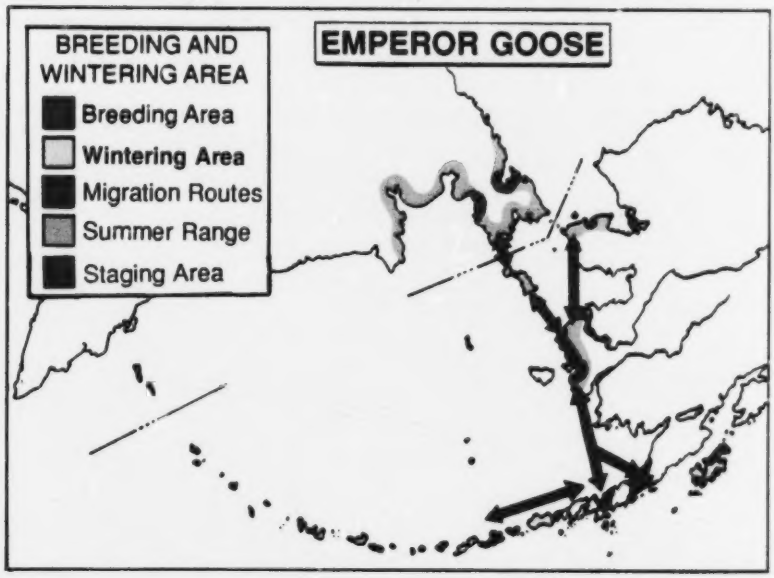
coast near ponds and streams. They usually lay 5 eggs that start off white but may become stained brown by nesting materials. Most of the eggs are laid by the first week in June. The chicks hatch in about 25 days and are almost 2 months old before they start to fly.

Each year, adult geese replace their old worn feathers with new ones. During this process, called molting, the geese are flightless for about four weeks. Molting usually occurs after the young hatch but before they can fly. While they molt, the geese stay near water so they can escape from foxes and other predators.

While on the Delta, emperors eat mostly sedges, grasses, algae, and crowberries.

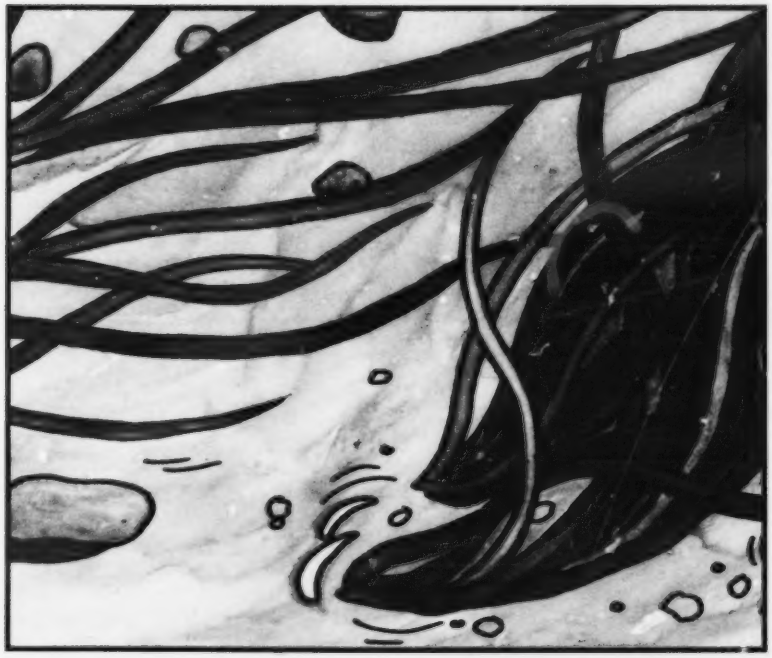
Emperors feed on eelgrass beds on the Alaska Peninsula and the Aleutian Islands.

Emperors leave the Delta at the end of the summer and fly to the Alaska Peninsula. They rest and eat in the coastal lagoons near Port Moller, Nelson Lagoon, and Izembek Lagoon. After a short time, they slowly move westward along the Aleutian Islands.



The Aleutian Islands are actually the peaks of a submarine mountain range. Fifty-seven volcanos are visible in the chain and many are active. It is hard to visit many of the islands because of the remoteness, rough seas, winds, and rocky shorelines. Access to some islands is restricted to protect wildlife.

Most emperor geese spend the winter in the Aleutian Islands, but some stay on Kodiak Island. During the winter, the geese do not nest. They spend most of their time eating. When the tide goes out, they walk over the mud to eat small clams, blue mussels, fish eggs, and worms which are on eelgrass.



Bird Migration

The reasons why birds migrate are not completely understood at this time. Several theories, or ideas, have been suggested and it is probably a combination of these reasons that causes birds to travel long distances every year.

One theory is that changing seasons and changing food and water supplies cause birds to migrate. In the winter, lakes in the north are frozen and the insects that many birds eat are gone. Another theory is that the urge to migrate to ancient habitats is passed on from one generation to the next.

Migrating birds do some amazing things. For instance, the golden plover flies from Alaska across 3,000 miles of open ocean to find the Hawaiian Islands; a ruby-throated hummingbird can fly 500 miles in 25 hours; mallards can fly as high as 21,000 feet; and geese fly up to 50 miles per hour.

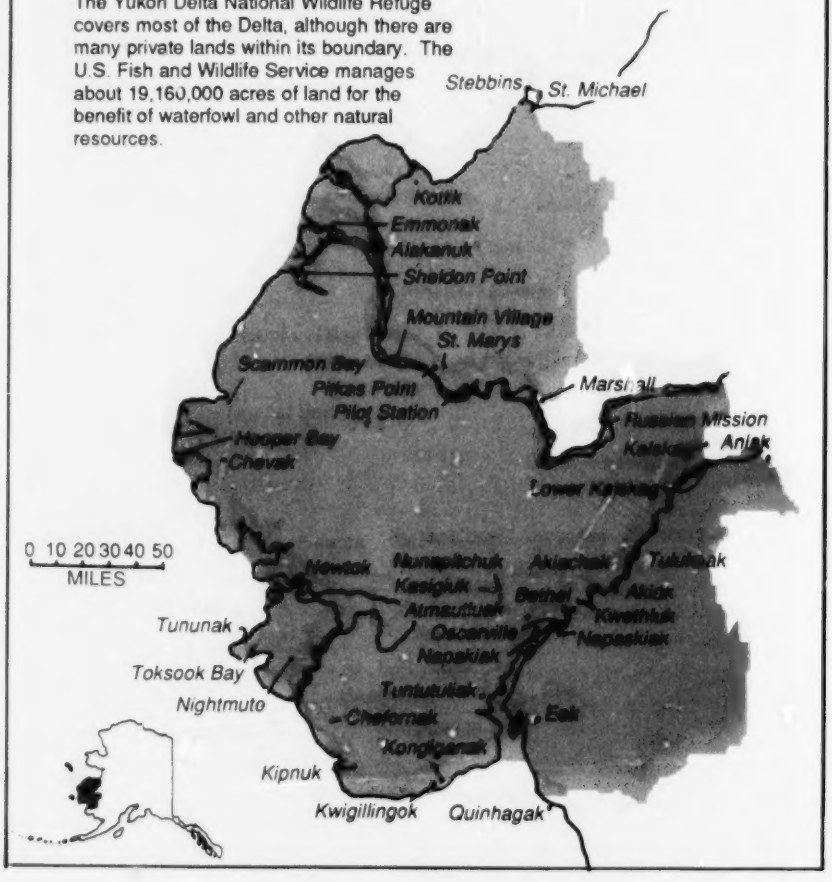
The shape of a bird's body, its powerful muscles, hollow bones, and breathing system all make long distance migration easier. Most birds also have very good eyesight. Many scientists think that birds use distant landmarks and the sun or stars to find their way. Other helpful traits include an ability to see ultraviolet light, hear low-frequency sounds (like surf against a distant beach), detect the magnetic and gravitational fields of the earth, and sense weather frontal systems and changes in barometric pressure. Birds may use one or several of these depending upon the species of bird and where it is traveling.

ALASKA'S YUKON-KUSKOKWIM DELTA

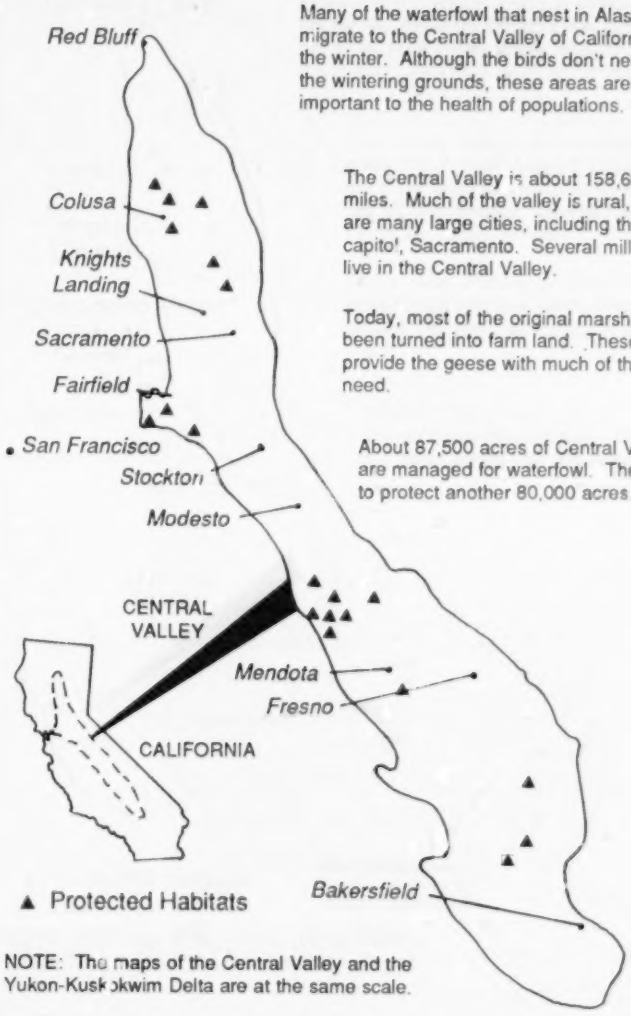
The Yukon-Kuskokwim Delta is a flat plain with many lakes, ponds, streams, inlets, bays, and coastal areas which are habitat for waterfowl from all over North America.

The Delta is about 41,080 square miles. There are about 50 communities. The total population of the Yukon-Kuskokwim Delta is about 16,700.

The Yukon Delta National Wildlife Refuge covers most of the Delta, although there are many private lands within its boundary. The U.S. Fish and Wildlife Service manages about 19,160,000 acres of land for the benefit of waterfowl and other natural resources.



CALIFORNIA'S CENTRAL VALLEY



Many of the waterfowl that nest in Alaska migrate to the Central Valley of California for the winter. Although the birds don't nest on the wintering grounds, these areas are important to the health of populations.

The Central Valley is about 158,693 square miles. Much of the valley is rural, but there are many large cities, including the state capitol, Sacramento. Several million people live in the Central Valley.

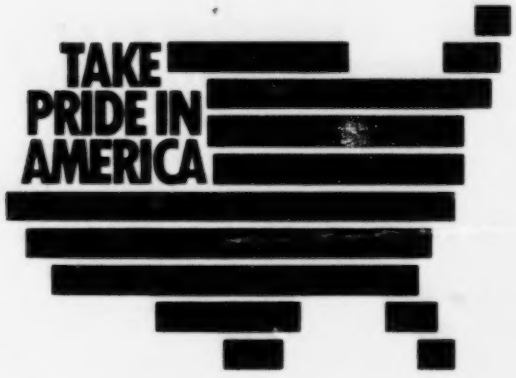
Today, most of the original marshes have been turned into farm land. These farms still provide the geese with much of the food they need.

About 87,500 acres of Central Valley habitat are managed for waterfowl. There are plans to protect another 80,000 acres.

NOTE: The maps of the Central Valley and the Yukon-Kuskokwim Delta are at the same scale.

What you can do for Wildlife

- **Volunteer your time** on national refuges and state and local wildlife management areas.
- **Participate** with conservation groups and organizations.
- **Manage** your own land to benefit wildlife.
- **Purchase** federal and state duck stamps. The money you spend helps buy land for wildlife.



Pacific White-Fronted Geese
(Anser albifrons frontalis)

White-fronted geese are medium sized geese that weigh 5 or 6 pounds. They are gray-brown with a speckled belly. They have a small band of white feathers around their bill that can only be seen from close up. Their bills are pink or orange and their legs and feet are orange.

The name Anser means goose. Albifrons means white front. Frontalis refers to the forehead. Other names for this goose are speckle-belly and laughing goose.

The Yukon-Kuskokwim Delta is home to almost all of the Pacific white-fronts. Others nest near the Innoko and Iditarod Rivers and in the Bristol Bay lowlands.

Predators on white-fronts and their eggs include foxes, glaucous gulls, mink, and parasitic jaegers.

Predation is the most common way that eggs and young geese are lost. Although a single fox may take hundreds of eggs during the nesting period, few of them are eaten right away. Most are cached and eaten later. Jaegers may eat goose eggs when lemmings and voles are not available. Gulls eat goslings which are less than two weeks old.

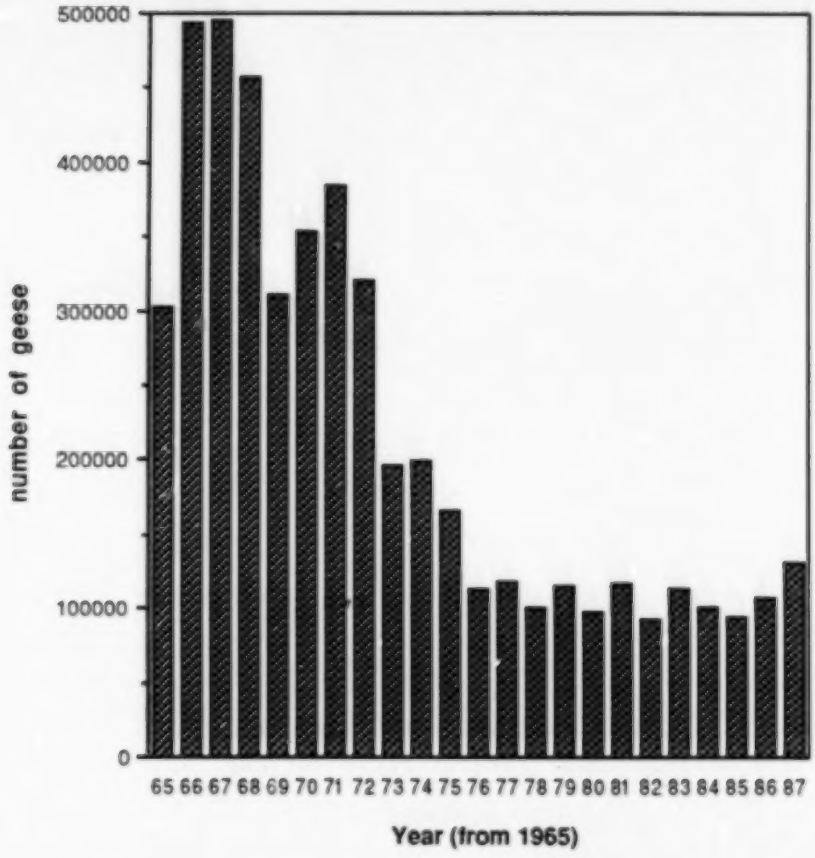
Surveys between 1965 and 1972 showed that there were between 300,000 and 495,000 white-fronts. In 1985 there were only 94,000. The population has started to increase again. In 1987 biologists counted 130,000 geese.

White-fronts begin to raise young when they are 3 or 4 years old. They arrive on their nesting areas in early May and make their nests in tall grass near sloughs. White-fronts spread out when they nest. Some of them go 40 miles inland.

Near the end of May, they lay about 4 white or tan eggs. About 7 weeks after they hatch, the young birds start to fly.

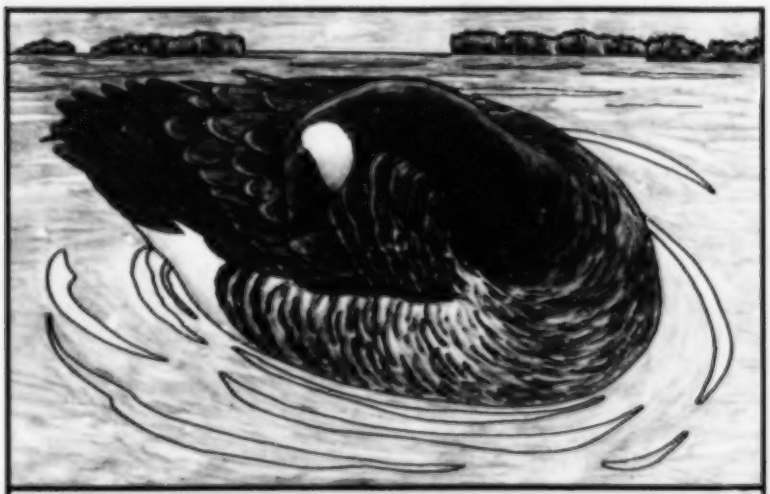
Foxes, gulls, and jaegers prey on geese and their nests.

Population Levels of Pacific Flyway
WHITE-FRONTED GEESE



Data based on peak autumn and winter index counts in California, 1965-80, and Klamath Basin and Sacramento Valley, 1981-88.

In the fall the white-fronts fly first to the Copper River Delta near Cordova and then push on non-stop to the mouth of the Columbia River between Washington and Oregon. Sometimes a flock will stop in southeast Alaska because of a storm. The birds work their way south from the Columbia River to the Klamath Basin in northern California. Most arrive there in October. The marshes, lakes, and grasslands in this area are very important to Alaskan white-fronts.

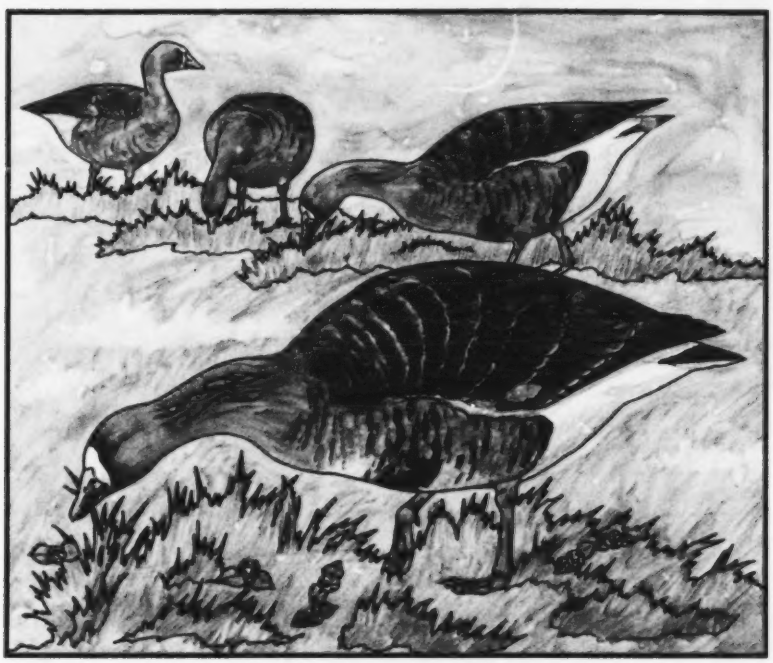


Birds have a gland near their tail that produces a special oil. The bird squeezes the oil out and spreads it on its feathers to keep them waterproof and in good condition. This is called preening. Ducks and geese preen their feathers several times a day.

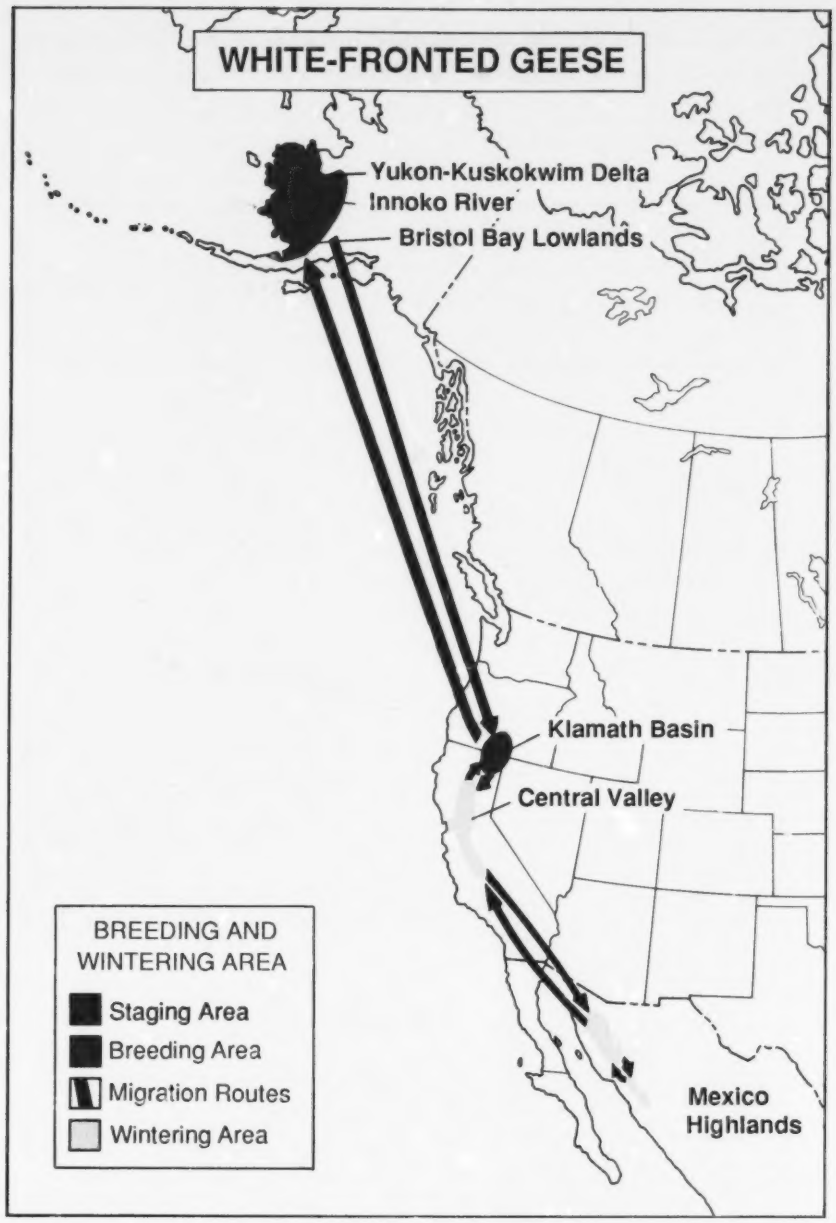
Some white-fronts stay in the Klamath Basin for the winter and some travel to southern California and Mexico. Most move to the Central Valley of California by late-November.

Baby geese will "imprint" on the first large moving object they see, even a human or another animal. They will follow their substitute mother around and may try to court the same species as their "mother." This imprinting only happens in the first few hours after hatching.

While on the wintering grounds, white-fronted geese do not nest, but spend most of their time eating marsh plants, rice, and other grains.



Eating is a main activity on the wintering grounds.


WHITE-FRONTED GEESE
Yukon-Kuskokwim Delta
Innoko River
Bristol Bay Lowlands
Klamath Basin
Central Valley
Mexico Highlands
BREEDING AND WINTERING AREA
Staging Area
Breeding Area
Migration Routes
Wintering Area

In February and March the geese begin to move north to the Klamath Basin again. In April they move back to Alaska, stopping to rest and feed at the Copper River Delta, Cook Inlet, and Bristol Bay.

The bones of birds are often hollow. Their lighter weight makes flight easier.

Grasses

- **Seeds are usually spread out.**
- **Stem is hollow.**
- **Stem is round.**
- **Grow mostly in drier places.**

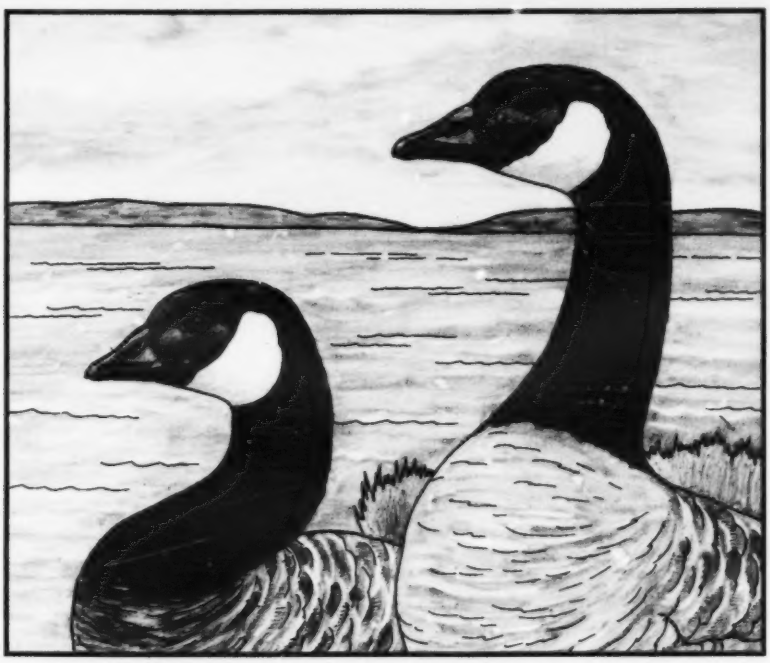
Sedges

- **Seeds are close together.**
- **Stem is solid.**
- **Stem is a triangle.**
- **Grow mostly in wet places.**

Cackling Canada Geese
(Branta canadensis minima)

There are several kinds of Canada geese that nest in Alaska. The cackling Canada goose nests in the coastal areas of the Yukon-Kuskokwim Delta. The scientific name "canadensis" means Canada. "Minima" means smallest. They are called cacklers because of their high-pitched call.

Cacklers look much like other Canada geese. They have black heads and necks with white "chin straps" stretching from ear to ear, brown backs and wings, and white bellies. Cacklers are the smallest of the Canada geese. They weigh only 3 or 4 pounds. Another type of Canada goose, the Taverner's Canada goose, nests farther inland on the Yukon-Kuskokwim Delta. The Taverner's goose is slightly larger and lighter in color than the cackler.

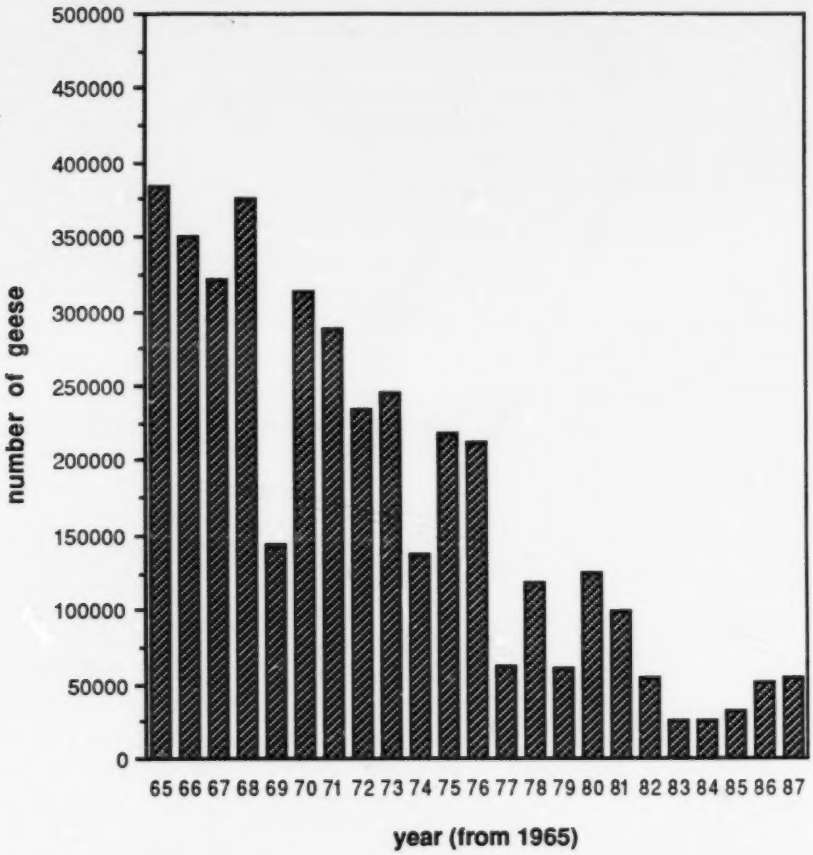


Cackling Canada Goose and Taverner's Canada Goose.

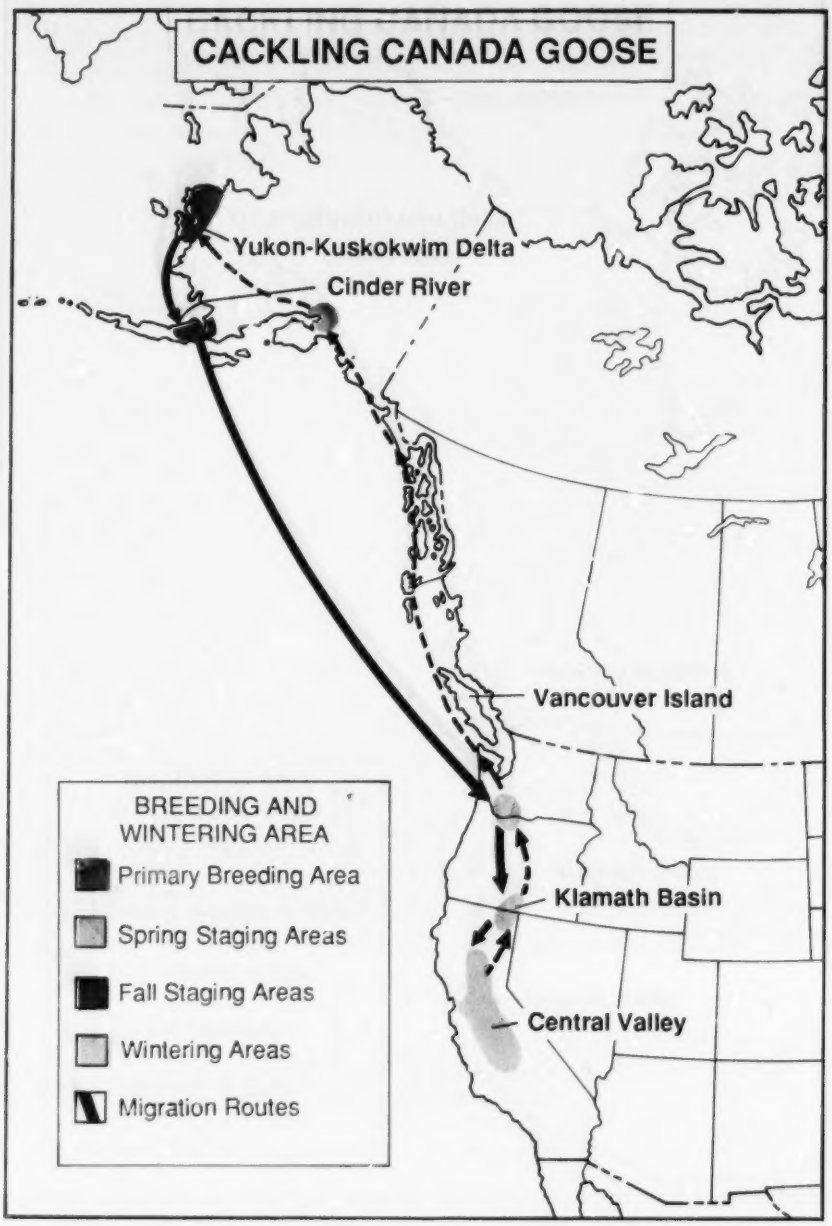
Cacklers and their eggs are eaten by foxes, glaucous gulls, and parasitic jaegers.

Surveys in 1965 showed that there were 384,000 cacklers. By 1984 there were less than 26,000 birds. In 1987 there were 54,800 cacklers counted.

Population Levels of Pacific Flyway
CACKLING CANADA GEESE



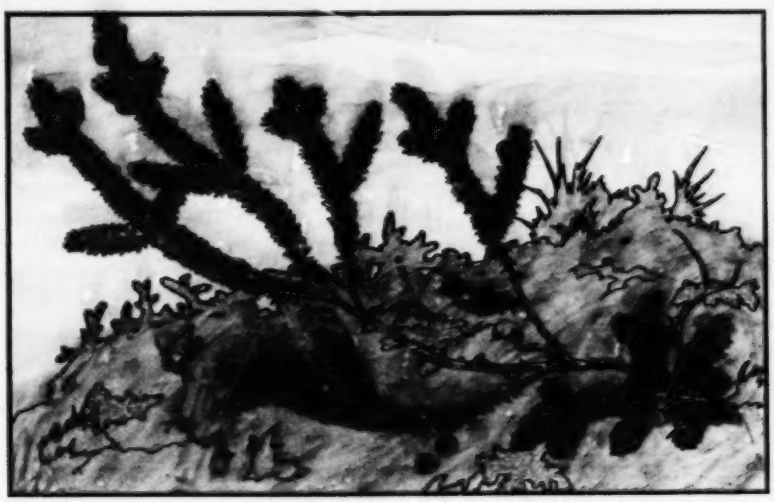
Data based on peak autumn index counts in the Klamath Basin 1965-81, and Klamath Basin, Sacramento Valley and Oregon 1982-88.


CACKLING CANADA GOOSE
Yukon-Kuskokwim Delta
Cinder River
Vancouver Island
Klamath Basin
Central Valley
BREEDING AND WINTERING AREA
Primary Breeding Area
Spring Staging Areas
Fall Staging Areas
Wintering Areas
Migration Routes

Cacklers nest within ten miles of the Bering Sea coast between the mouths of the Yukon and Kuskokwim Rivers. They mate when they are 2-3 years old. In late May they build nests on small islands or peninsulas in lakes or ponds. Cacklers lay 4 or 5 creamy white eggs which hatch about 25 days later. Some eggs are stained orange from minerals in the water. The young birds begin to fly at about 40 to 45 days.

In September, some of the cacklers gather on Nunivak Island to feed on crowberries. They make one more stop on the Alaska Peninsula, near Pilot Point and the Cinder River, in October. Then they fly across the Gulf of Alaska to the mouth of the Columbia River in Oregon.

Most of the cacklers move across the Cascade Mountains to the Klamath Basin in northern California before they move south to the Central Valley. Some also stay in Oregon's Willamette Valley for the winter.



Crowberries are common on Nunivak Island.

Nesting on small islands and peninsulas in lakes helps geese to protect their nests from foxes.

During their time on the wintering grounds, the cacklers feed in grasslands, farm pastures, and croplands. They do not nest on the wintering grounds.

When geese fly in the V-formation, air currents made by the leader reduce "drag" and make flight easier for those flying behind. As different birds move into the leader's position, all of the birds can take advantage of this.

In February the cacklers begin to leave California, traveling north to Oregon, picking up other flocks along the way. They move up the coast of Canada and Alaska until they reach the west side of Cook Inlet. They rest and feed there while they wait for breakup on the Yukon-Kuskokwim Delta. They arrive on the Delta by mid-May.

Alaska's geese provide us with both food and beauty. They are an important part of the natural resources of the United States, especially Alaska, as well as Canada, Mexico, and Siberia. The geese should be protected in all of these places for future generations to enjoy.

Although the populations of the brant, emperor, white-fronted, and cackling Canada geese have declined seriously, some of the populations are growing again. Through wise management and careful use, these geese will continue to be a part of the nation's and Alaska's heritage.

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.